

Appln No. 10/781,101
Amdt date November 8, 2007
Reply to Office action of August 8, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-2. (Cancelled)

3. (Currently Amended) A pattern inspection method, as set forth in claim 1 A pattern inspection method comprising:

capturing images, by scanning an object to be inspected on which a plurality of identical patterns are arranged, of the plurality of the patterns;
detecting positional information of the images of neighboring identical patterns;
determining a quantity of correction, by which a positional relation of the images of the neighboring identical patterns is corrected, based on the detected positional information; and
comparing the images the positional relation of which has been corrected based on the quantity of correction, wherein the quantity of correction is determined based on the positional information of the images at multiple separate places in the pattern, wherein the detection of the positional information of the images, the determination of the quantity of correction and the comparison of the images are carried out in parallel with the scan for capturing the images to be used for [[the]] a subsequent comparison, and wherein the determination of the quantity of correction and the comparison of the images are started after the capture of the images of [[the]] two of the neighboring patterns is completed.

4-5. (Cancelled)

6. (Currently Amended) A pattern inspection method, as set forth in claim 1 A pattern inspection method comprising:

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capturing images, by scanning an object to be inspected on which a plurality of identical patterns are arranged, of the plurality of the patterns;

detecting positional information of the images of neighboring identical patterns;

determining a quantity of correction, by which a positional relation of the images of the neighboring identical patterns is corrected, based on the detected positional information; and

comparing the images the positional relation of which has been corrected based on the quantity of correction, wherein the quantity of correction is determined based on the positional information of the images at multiple separate places in the pattern, wherein the detection of position the positional information, the determination of the quantity of correction and the comparison of the images are carried out in parallel with the scan for capturing the images to be used for [[the]] a subsequent comparison, and wherein the determination of the quantity of correction and the comparison of the images are started after the capture of the images of the patterns in each row is completed.

7. (Currently Amended) A pattern inspection method, as set forth in claim 1 A pattern inspection method comprising:

capturing images, by scanning an object to be inspected on which a plurality of identical patterns are arranged, of the plurality of the patterns;

detecting positional information of the images of neighboring identical patterns;

determining a quantity of correction, by which a positional relation of the images of the neighboring identical patterns is corrected, based on the detected positional information; and

comparing the images the positional relation of which has been corrected based on the quantity of correction, wherein the quantity of correction is determined based on the positional information of the images at multiple separate places in the pattern, wherein each pattern has a cell pattern repeated at a predetermined pitch, and wherein [[the]] a cell comparison for comparing the neighboring cell patterns in each pattern is made immediately after the capture of the images of the neighboring cell patterns and in parallel to the capture of the images to be used for [[the]] a subsequent cell comparison.

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8-9. (Cancelled)

10. (Currently Amended) A pattern inspection apparatus, as set forth in claim 8 A pattern inspection apparatus comprising:

an image capturing section for capturing images, by scanning an object to be inspected on which a plurality of identical patterns are arranged, of the plurality of the patterns;

an image storage section for storing the captured images;

a positional information detecting section for detecting positional information of the images of neighboring identical patterns;

a correction quantity determining section for determining a quantity of correction, by which a positional relation of the images of the neighboring identical patterns is corrected, based on the detected positional information; and

a pattern comparison section for correcting the positional relation based on the quantity of correction and comparing the corrected images, wherein the correction quantity determining section determines the quantity of correction based on the positional information of the images at multiple separate places in the pattern, wherein the detection of the positional information of the image by the positional information detecting section, the determination of the quantity of correction by the correction quantity determining section and the comparison of the images by the pattern comparison section are carried out in parallel to the capture of the images to be used for [[the]] a subsequent comparison by the image capturing section and the storage of the images, and wherein the image storage section has a capacity for storing images of at least two patterns, and after the capture of two neighboring images by the image capturing section and the storage of the images are completed, the correction quantity determining section and the pattern comparison section start the determination of the quantity of correction and the comparison of the images.

11-12. (Cancelled)

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13. (Currently Amended) A pattern inspection apparatus, as set forth in claim 11 A pattern inspection apparatus comprising:

an image capturing section for capturing images, by scanning an object to be inspected on which a plurality of identical patterns are arranged, of the plurality of the patterns;

an image storage section for storing the captured images;

a positional information detecting section for detecting the positional information of the images of the identical patterns in each row;

a correction quantity determining section for determining a quantity of correction, by which the positional relation of the images of the neighboring patterns is corrected, based on the detected positional information; and

a pattern comparison section for correcting the positional relation based on the quantity of correction and comparing the corrected images, wherein the correction quantity determining section determines the quantity of correction based on the positional information of the images at multiple separate places in each row in the scanning direction in the pattern arrangement,
wherein the detection of the positional information of the image by the positional information detecting section, the determination of the quantity of correction and the comparison of the images by the pattern comparison section are carried out in parallel to the capture of the images to be used for [[the]] a subsequent comparison by the image capturing section and the storage of the images, and wherein the image storage section has a capacity for storing pattern images of at least one row, and after the capture of the pattern images of each row by the image capturing section and the storage of the images are completed, the correction quantity determining section and the pattern comparison section start the determination of the quantity of correction and the comparison of the images.

14. (Currently Amended) A pattern inspection apparatus, as set forth in claim 8-A pattern inspection apparatus comprising:

an image capturing section for capturing images, by scanning an object to be inspected on

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which a plurality of identical patterns are arranged, of the plurality of the patterns;

an image storage section for storing the captured images;

a positional information detecting section for detecting positional information of the images of neighboring identical patterns;

a correction quantity determining section for determining a quantity of correction, by which a positional relation of the images of the neighboring identical patterns is corrected, based on the detected positional information; and

a pattern comparison section for correcting the positional relation based on the quantity of correction and comparing the corrected images, wherein the correction quantity determining section determines the quantity of correction based on the positional information of the images at multiple separate places in the pattern, wherein each pattern has a cell pattern to be repeated at a predetermined pitch, wherein a cell comparison section for making a comparison between the neighboring cell patterns in each pattern is included, and wherein the cell comparison section makes a comparison between the neighboring cell patterns in parallel to the capture of the images to be used for [[the]] a subsequent comparison after the capture of the cell pattern images, which are the object for [[the]] an immediately subsequent comparison, by the image storage section.

15. (Currently Amended) A pattern inspection apparatus comprising: an image capturing section for capturing images, by scanning an object to be inspected on which a plurality of patterns having a cell pattern to be repeated at a predetermined pitch are arranged, of the plurality of patterns; and m (m is an integer larger than 1) processing units having an identical configuration, wherein each processing unit comprises an image storage section for storing the captured images, a positional information detecting section for detecting the positional information of the images of the identical patterns in each row, a correction quantity determining section for determining the quantity of correction, by which [[the]] a positional relation of the images of the neighboring identical patterns is corrected, based on the detected positional information, a pattern comparison section for correcting the positional relation based

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on the quantity of correction and comparing the corrected images, and a cell comparison section for making a comparison between the neighboring cell patterns in each pattern, and wherein each of the m processing units carries out, for each row and in a sharing manner, any of the capture and storage of the images, the cell comparison and the detection of positional deviation, and the determination of the quantity of correction and the pattern comparison, and take turns for each capture and storage of the images.

16. (Currently Amended) A pattern inspection apparatus, as set forth in claim 15, wherein the correction quantity determining section determines the quantity of correction based on the positional information containing the positions of images of multiple separate patterns in each row in the scanning direction in the pattern arrangement.

17. (Original) A pattern inspection apparatus, as set forth in claim 16, wherein the multiple separate patterns include the patterns on both ends in each die.